

426/415

A GUIDE TO PROFITABLE PACKAGING WITH

**SHELL**

# Polyethylene





Better-selling packages take shape in

**SHELL**

# Polyethylene

There's a profitable sales story for you in packaging made with Shell Polyethylene. It starts with the low cost, light weight and high strength of this plastic — goes on to the wide variety of finishes and colors possible.

But Shell technical men can tell you the story best. They'll help you pick the specific polyethylene polymer you need — low, medium or high density — even *tailor make* one for you if necessary. Need design or engineering service? They'll work with you from the blueprint stage to the final product.

Look over the properties and applications below in terms of *your* package and call Shell today. Our District Offices are listed on the back cover for your convenience.



**SHATTERPROOF** — Lightweight gallon milk bottle blown from Shell Polyethylene is rigid yet resilient — won't break if dropped.



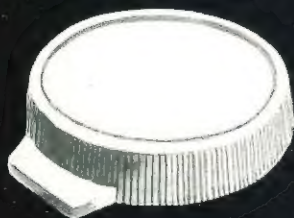
**ODORLESS, TASTELESS** coatings of Shell Polyethylene on milk cartons inside and out reduce the problem of leakage — will not flake off.



**HIGH STRENGTH** overwraps of polyethylene have the toughness needed for shipping, storage and long shelf life.



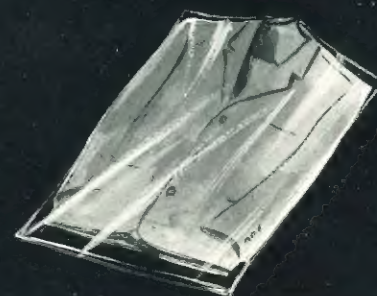
**FLEXIBLE** — Squeeze bottle of low density polyethylene is economical, available in a wide range of surface finishes and colors.



**DIMENSIONALLY STABLE** — Closure of high-density polyethylene is strong, warp resistant — resists chemicals and moisture.



**LOW TEMPERATURE TOUGHNESS** — Frozen food packages of polyethylene film can withstand sub-zero temperature without losing strength.



**HIGH CLARITY** — Dry cleaned clothes are ready for pickup or delivery protected in clear tough film made of Shell Polyethylene.



## LOW AND MEDIUM DENSITY RESINS

DESIGNATION	MELT INDEX	DENSITY (G/CC)	DESCRIPTION
<b>FILM EXTRUSION PRODUCTS</b>			
RF-1400 Natural	1.7-2.4	0.918	Unmodified resin — very good extrudability, good strength, blocking resistance for general purpose packaging.
LF-1421 Natural-7	1.7-2.6	0.922	High clarity, medium impact, unmodified general purpose packaging.
LF-1422 Natural-7	1.7-2.6	0.922	Same as LF-1421, medium slip, medium impact. Good drawdown for general purpose packaging, particularly soft goods.
LF-1423 Natural-7	1.7-2.6	0.922	Same as LF-1421, with higher slip and very good anti-blocking characteristics.
LF-1424 Natural-7	6.0-8.0	0.924	High clarity, high slip, good blocking resistance. Very high drawdown for packaging dry-cleaned garments, laundered shirts.
LF-1425 Natural-7	4.0-6.0	0.924	Similar properties as LF-1424 but possessing greater impact strength.
LF-1427 Natural-7	1.7-2.4	0.918	Same as LF-1428 with anti-oxidant and medium slip.
LF-1428 Natural-7	1.7-2.4	0.918	Hot processed unmodified RF-1400 with improved clarity.
LF-1429 Natural	1.1-2.4	0.919	Purging compound to exert cleaning action on interior of extruder and die, possessing very good heat stability.
LF-1445 Natural-7	.5-.8	0.922	Normal slip similar to LF-1421 but containing anti-block and anti-oxidant additives.
LF-1446 Natural-7	.5-.8	0.922	Very slight slip, similar to RF-1400 but containing anti-block and anti-oxidant additives.
LF-1449 Natural-7	.75	0.922	High impact strength and good clarity. Modified with anti-block and anti-oxidant additives. High slip.
LF-1447 Natural-7	1.4	0.924	High clarity, good impact strength coupled with medium slip, excellent extrudability and good anti-blocking characteristics.
LF-1450 Natural-7	.70	0.920	Unmodified, particularly suited for the manufacture of general purpose impact film with low temperature toughness.
LF-1453 Natural-7	1.4	0.924	High clarity, good impact strength, high slip and excellent extrudability.
MF-1451 Natural-7	1.8	0.928	Very low slip, designed for extrusion of high clarity, crisp film for soft goods and garment bags.
MF-1455 Natural-7	1.8	0.928	Unmodified resin for extrusion of high clarity, crisp film. Excellent for general purpose overwrap.
MF-1456 Natural-7	1.8	0.928	Low slip film extrusion resin with high clarity.
MF-1457 Natural-7	1.8	0.928	A medium slip resin similar to MF-1455.
MF-1458 Natural-7	1.8	0.928	A high slip film extrusion resin.
LF-1459 Natural-7	1.8-2.3	0.924	For films of highly improved clarity, sparkle and crispness. Fortified with anti-oxidant and anti-block additives. Medium slip.
LF-1460 Natural-7	1.8-2.3	0.924	A very high slip resin similar to LF-1459.
HF-2408 Natural-7	.15	0.950	An elastomer-modified resin tailored for light and heavy produce packaging, baler packaging, industrial shipping bags and drum liners.
<b>EXTRUSION COATING</b>			
RC-1401 Natural	3.0-3.9	0.918	Unmodified resin for general purpose coating.
LC-1430 Natural-7	3.0-3.9	0.919	High slip and good anti-blocking for both mat and glossy surface in general purpose coating.
LC-1431 Natural-7	3.0-3.9	0.918	Good heat sealability and color resistance with anti-oxidant and low slip for general purpose coating.
MC-1433 Natural-7	6.5	0.930	Particularly suitable for applications requiring superior barrier properties and high temperature resistance.
MC-1448 Natural-7	6.0-8.0	0.930	Good heat resistance, excellent water and moisture barrier properties.
HC-2412 Natural-7	6.0-8.0	0.950	High density resin featuring superior moisture vapor transmission resistance, excellent grease and oil resistance.
<b>BLOW MOLDING</b>			
LB-1407 Natural-7	1.0-1.5	0.920	Same as LB-1408 with improved odor resistance.
LB-1408 Natural-7	1.0-1.5	0.920	Hot processed for blow molding bottles.
<b>INJECTION MOLDING</b>			
LM-1410 Natural-7	8.0-10.0	0.925	Medium flow, medium density containing a slip agent.
RM-1401 Natural	3.0-3.9	0.918	General purpose resin with improved flow over RM-1400.
RM-1400 Natural	1.7-2.4	0.918	General purpose resin with good stress crack resistance.
LM-1411 Natural-7	19.0-27.0	0.925	Extra high flow for housewares and other applications requiring improved stiffness.
LM-1412 Natural	19.0-27.0	0.925	Same as LM-1411 with anti-static properties.
LM-1413 Natural-7	1.7-2.4	0.918	Hot processed RM-1400 adaptable to coloring.
LM-1414 Natural	18.0-28.0	0.918	Extra high flow for housewares and other applications.
LM-1415 Natural-7	19.0-27.0	0.925	Same as LM-1411 with slip.
<b>WAX FORTIFYING RESINS</b>			
RQ-1402 Natural-7		Spec. Grav. (Av.) 0.89	Designed for hot melt and solution applications to fortify paraffin waxes. Low molecular weight.
RQ-1403 Natural-7	300-500	0.91	Higher density than RQ-1402 which produces tougher coatings. Good adhesion, colorless, tasteless and grease resistant.
RQ-1404	0.20-0.40	0.92	Low odor, colorless, excellent adhesion.

## HIGH DENSITY RESINS

DESIGNATION	MELT INDEX	DENSITY (G/CC)	DESCRIPTION
<b>BLOW MOLDING</b>			
HB-2400 Natural-7	0.25	0.952	Modified for stress crack resistance. For detergent and other containers.
HB-2401 Natural-7	0.20	0.96	Tough, rigid, good thermal aging, for very large parts.
HB-2402 Natural-7	0.7	0.96	High impact strength, rigid product for general purpose containers and bleach bottles.
HB-2403 Natural-7	1.0	0.96	Heat resistant, general purpose rigid material, for sterilizable containers.
HB-2404 Natural-7	2.0	0.96	High plasticity, good impact strength, designed for bleach bottles.
HB-2413 Natural-7	.6-.8	0.963	Especially designed for milk bottles, excellent stress crack resistance, low temperature toughness. Tailored to meet Food & Drug Administration tests.
HB-2414 Natural-7	.6-.8	0.963	Designed for spring or distilled water. Good stress crack resistance.
<b>EXTRUSION COMPOUND</b>			
HS-2405 Natural	0.1-0.3	0.960	Due to its high anti-oxidant level and low melt index, HS-2405 Natural shows excellent toughness, resistance to stress cracking and thermal embrittlement.
<b>INJECTION MOLDING</b>			
HM-2407 Natural-7	3.5	0.965	Rigid, stress crack resistance product for housewares, toys and containers.
HM-2406 Natural-7	5.0	0.965	High gloss, rigid material for trays, tumblers, toys and cases.

# Shell can give you expert advice and help you get the most for your packaging dollar

It will pay you to call Shell in the *early* stages of package development. Take advantage of the design and engineering experience of Shell specialists – let them show you how to produce the package you need at low cost. The right advice at the start can save you time and money at every step of design, manufacture and marketing. Remember, Shell offers a complete line of polypropylenes, polystyrenes, and polyethylenes and has a depth of experience that can make a profitable difference for you. Call our nearest District Office today!

The information in this brochure is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. This information is furnished upon the condition that the person receiving it shall make his own tests to determine the suitability thereof for his particular purpose.

The properties described herein, although current at time of publication, are subject to change due to process improvements. For latest properties, contact our nearest sales office. February 1963

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